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☐ 1. Document ID: US 6448457 B1 DE 19809418 A1 WO 9944974 A1 EP 1060154 A1 CN 1294570 A KR 2001041595 A JP 2002505312 W

L6: Entry 1 of 1

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Sep 10, 2002

DERWENT-ACC-NO: 1999-528645

DERWENT-WEEK: 200263

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TITLE: Mechanically stable supported copper catalyst for hydrogenation of carbonyl compounds, especially aliphatic aldehydes or hydroxy aldehydes

INVENTOR: HESSE, M; KRATZ, D ; SAUERWALD, M ; SCHULZ, G ; WALTER, M

PATENT-ASSIGNEE:

ASSIGNEE

CODE

BASF AG

BADI

PRIORITY-DATA: 1998DE-1009418 (March 5, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6448457 B1	September 10, 2002		000	C07C027/04
<u>DE 19809418 A1</u>	September 9, 1999	← After claimed priority date	009	C07B041/02
WO 9944974 A1	September 10, 1999	G	000	C07C029/141
EP 1060154 A1	December 20, 2000	G	000	C07C029/141
CN 1294570 A	May 9, 2001		000	C07C029/141
KR 2001041595 A	May 25, 2001		000	C07C029/141
JP 2002505312 W	February 19, 2002		027	C07C029/141

DESIGNATED-STATES: CA CN JP KR US AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BE DE ES FI FR GB GR IT NL SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 6448457B1	March 5, 1999	1999WO-EP01427	
US 6448457B1	August 29, 2000	2000US-0623172	
US 6448457B1		WO 9944974	Based on
DE 19809418A1	March 5, 1998	1998DE-1009418	
WO 9944974A1	March 5, 1999	1999WO-EP01427	
EP 1060154A1	March 5, 1999	1999EP-0911740	
EP 1060154A1	March 5, 1999	1999WO-EP01427	
EP 1060154A1		WO 9944974	Based on
CN 1294570A	March 5, 1999	1999CN-0804398	
KR2001041595A	September 4, 2000	2000KR-0709789	
JP2002505312W	March 5, 1999	1999WO-EP01427	
JP2002505312W	March 5, 1999	2000JP-0534523	
JP2002505312W		WO 9944974	Based on

INT-CL (IPC): B01 J 23/72; C07 B 41/02; C07 B 61/00; C07 C 27/04; C07 C 29/136; C07 C 29/141; C07 C 31/02; C07 C 31/20; C07 C 31/22

ABSTRACTED-PUB-NO: DE 19809418A  
BASIC-ABSTRACT:

NOVELTY - Catalyst comprising copper, optionally together with zinc, aluminum, cerium, noble metal(s) and/or Group VIII metal(s), on an inorganic support containing titanium dioxide (TiO<sub>2</sub>), has a copper surface area of 10 m<sup>2</sup>/g or less.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) a process for catalytic hydrogenation of carbonyl compounds using a catalyst as above; (2) production of the catalyst by adding metallic copper powder during tableting.

USE - The process can be used to hydrogenate aldehydes, ketones, carboxylic acids, carbonyl halides, esters, fats, anhydrides, amides, hydroxy acids or amino acids, especially aliphatic aldehydes or hydroxy aldehydes, e.g. to convert hydroxypivalaldehyde to neopentyl glycol or to convert dimethylolbutanal to trimethylolpropane.

ADVANTAGE - The catalyst has high mechanical stability and gives high conversions and selectivities. A catalyst prepared by adding 15% copper powder to a composite of 25% copper oxide and 75% TiO<sub>2</sub> during tableting gave 92.8% conversion of dimethylolbutanal with 92.3% selectivity for trimethylolpropane.

ABSTRACTED-PUB-NO:

US 6448457B  
EQUIVALENT-ABSTRACTS:

NOVELTY - Catalyst comprising copper, optionally together with zinc, aluminum, cerium, noble metal(s) and/or Group VIII metal(s), on an inorganic support containing titanium dioxide (TiO<sub>2</sub>), has a copper surface area of 10 m<sup>2</sup>/g or less.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) a process for catalytic hydrogenation of carbonyl compounds using a catalyst as above; (2) production of the catalyst by adding metallic copper powder during tableting.

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